

WHAT IS CLAIMED IS:

1. An information recording apparatus for recording information in a recordable recording medium in conformity to a recording format for a recording medium for reproduction only, the recording format defining at least unit recording information and managing control information, the unit recording information including recording information to be reproduced and reproduction control information for controlling a reproduction mode of the recording information, the managing control information controlling the reproduction of one or a plurality of said unit recording information, the apparatus comprising:

a first recording device for recording said unit recording information in said recordable recording medium;

a generating device for, after said unit recording information is recorded, generating tentative control information corresponding to the recorded unit recording information and being used for forming said managing control information later on to record it in said recordable recording medium; and

a second recording device for recording said generated tentative control information in the recordable recording medium every when said unit information is recorded in said recordable recording medium.

2. The information recording apparatus according to claim 1, wherein said first recording device, after said recording

information is recorded, records said reproduction control information corresponding to the recording information in an area on said recordable recording medium, said area detected ahead of the recording information; and

5           said second recording device records said tentative control information in an area on said recordable recording medium, said area located between the area in which said recording information is recorded and the area in which said reproduction control information is recorded.

10           3.     The information recording apparatus according to claim 2, further comprising an editorial device for carrying out the editorial processing to change the reproduction content of said recording information which has been already recorded in said  
15     recordable recording medium,

          wherein said generating device newly generates said tentative control information corresponding to the content of said recording information after the editorial processing; and

20           said second recording device records said newly generated tentative control information in a vacant area on said recordable recording medium.

25           4.     The information recording apparatus according to claim 1, further comprising a third recording device for generating said managing control information by using said recorded tentative control information and recording it in said recordable recording medium when the recording of said recording information

in said recordable recording medium is terminated.

5. The information recording apparatus according to claim 4, wherein said third recording device records said generated managing control information in an area on said recordable recording medium, said area detected ahead of the unit recording information.

6. The information recording apparatus according to claim 1, wherein said recording format is based on a DVD video standard, said recordable recording medium is a DVD-R (DVD-Recordable) and further, said unit control information is VTSI (Video Title Set Information) in said recording format and said managing control information is VMGI (Video Manager General Information) in said recording format.

7. An information recording method for recording information in a recordable recording medium in conformity to a recording format for a recording medium for reproduction only, the recording format defining at least unit recording information and managing control information, the unit recording information including recording information to be reproduced and reproduction control information for controlling a reproduction mode of the recording information, the managing control information controlling the reproduction of one or a plurality of said unit recording information, the method comprising:  
a first recording process for recording said unit recording

information in said recordable recording medium;

a generating process for, after said unit recording information is recorded, generating tentative control information corresponding to the recorded unit recording information and being used for forming said managing control information later on to record it in said recordable recording medium; and

a second recording process for recording said generated tentative control information in the recordable recording medium every when said unit information is recorded in said recordable recording medium.

8. The information recording method according to claim 7, wherein, in said first recording process, after said recording information is recorded, said reproduction control information corresponding to the recording information is recorded in an area on said recordable recording medium, said area detected ahead of the recording information; and

in said second recording process, said tentative control information is recorded in an area on said recordable recording medium, said area located between the area in which said recording information is recorded and the area in which said reproduction control information is recorded.

9. The information recording method according to claim 8, further comprising an editorial process for carrying out the editorial processing to change the reproduction content of said

recording information which has been already recorded in said recordable recording medium,

wherein, in said generating process, said tentative control information corresponding to the content of said  
5 recording information is newly generated after the editorial processing; and

in said second recording process, said newly generated tentative control information is recorded in a vacant area on said recordable recording medium.

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10. The information recording method according to claim 7, further comprising a third recording process for generating said managing control information by using said recorded tentative control information and recording it in said recordable recording  
15 medium when the recording of said recording information in said recordable recording medium is terminated.

11. The information recording method according to claim 10, wherein, in said third recording process, said generated managing  
20 control information is recorded in an area on said recordable recording medium, said area detected ahead of the unit recording information.

12. An information recording medium, in which a recording  
25 control program is recorded capable of being read by a recording computer included in an information recording apparatus for recording information in a recordable recording medium in

conformity to a recording format for a recording medium for reproduction only, the recording format defining at least unit recording information and managing control information, the unit recording information including recording information to be reproduced and reproduction control information for controlling a reproduction mode of the recording information, the managing control information controlling the reproduction of one or a plurality of said unit recording information, the recording control program causing the recording computer to function as:

10 a first recording device for recording said unit recording information in said recordable recording medium;

a generating device for, after said unit recording information is recorded, generating tentative control information corresponding to the recorded unit recording information and being used for forming said managing control information later on to record it in said recordable recording medium; and

15 a second recording device for recording said generated tentative control information in the recordable recording medium every when said unit information is recorded in said recordable recording medium.

13. The information recording medium according to claim 12, wherein said first recording device, after said recording information is recorded, records said reproduction control information corresponding to the recording information in an area on said recordable recording medium, said area detected

ahead of the recording information; and

said second recording device records said tentative control information in an area on said recordable recording medium, said area located between the area in which said recording information is recorded and the area in which said reproduction control information is recorded.

14. The information recording medium according to claim 13, the recording control program causes the recording computer to further function as an editorial device for carrying out the editorial processing to change the reproduction content of said recording information which has been already recorded in said recordable recording medium,

wherein said generating device newly generates said tentative control information corresponding to the content of said recording information after the editorial processing; and

said second recording device records said newly generated tentative control information in a vacant area on said recordable recording medium.

15. The information recording medium according to claim 12, the recording control program causes the recording computer to further function as a third recording device for generating said managing control information by using said recorded tentative control information and recording it in said recordable recording medium when the recording of said recording information in said recordable recording medium is terminated.

16. The information recording medium according to claim 15,  
wherein said third recording device records said generated  
managing control information in an area on said recordable  
5 recording medium, said area detected ahead of the unit recording  
information.

17. A computer data signal embodied in a carrier wave and  
representing a series of instructions which cause a computer  
10 to perform steps to execute a recording control process in an  
information recording apparatus for recording information in  
a recordable recording medium in conformity to a recording format  
for a recording medium for reproduction only, the recording  
format defining at least unit recording information and managing  
15 control information, the unit recording information including  
recording information to be reproduced and reproduction control  
information for controlling a reproduction mode of the recording  
information, the managing control information controlling the  
reproduction of one or a plurality of said unit recording  
20 information, the steps comprising:

a first recording step for recording said unit recording  
information in said recordable recording medium;

a generating step for, after said unit recording  
information is recorded, generating tentative control  
25 information corresponding to the recorded unit recording  
information and being used for forming said managing control  
information later on to record it in said recordable recording



medium; and

a second recording step for recording said generated tentative control information in the recordable recording medium every when said unit information is recorded in said recordable recording medium.

18. The computer data signal embodied in a carrier wave according to claim 17, wherein said first recording step, after said recording information is recorded, records said reproduction control information corresponding to the recording information in an area on said recordable recording medium, said area detected ahead of the recording information; and

said second recording step records said tentative control information in an area on said recordable recording medium, said area located between the area in which said recording information is recorded and the area in which said reproduction control information is recorded.

19. The computer data signal embodied in a carrier wave according to claim 18, the recording control program causes the recording computer to further function as an editorial step for carrying out the editorial processing to change the reproduction content of said recording information which has been already recorded in said recordable recording medium,

wherein said generating step newly generates said tentative control information corresponding to the content of said recording information after the editorial processing; and

said second recording step records said newly generated tentative control information in a vacant area on said recordable recording medium.

5 20. The computer data signal embodied in a carrier wave according to claim 17, the recording control program causes the recording computer to further function as a third recording step for generating said managing control information by using said recorded tentative control information and recording it in said  
10 recordable recording medium when the recording of said recording information in said recordable recording medium is terminated.

21. The computer data signal embodied in a carrier wave according to claim 20, wherein said third recording step records  
15 said generated managing control information in an area on said recordable recording medium, said area detected ahead of the unit recording information.